

Case 3521

***Megaselia abdita* Schmitz, 1959 (Diptera, PHORIDAE): proposed precedence over *Aphiochaeta griseipennis* Santos Abreu, 1921 (currently *Megaselia griseipennis*)**

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Abstract. The purpose of this application, under Articles 23.9.3 and 81.2.3 of the Code, is to conserve the specific name *Megaselia abdita* Schmitz, 1959 for a widespread Holarctic scuttle fly by giving it precedence over its senior subjective synonym *Megaselia griseipennis* (Santos Abreu, 1921), which has long been treated as a nomen dubium. A growing literature exists using the name *M. abdita*. It is proposed that the name *Megaselia abdita* be given precedence over *Megaselia griseipennis* (Santos Abreu, 1921) to avoid confusion.

Keywords. Nomenclature; taxonomy; Diptera; PHORIDAE; *Megaselia*; *Megaselia abdita*; *Megaselia griseipennis*; scuttle fly; Holarctic.

1. The scuttle fly genus *Megaselia* Rondani, 1856 is the largest genus of the family PHORIDAE and among the largest in the order Diptera. It exhibits a greater range of larval habits than has been documented for any other genus of insects. Currently there are around 1500 species that have been described, but it is estimated that at least ten times this number remain unknown. Its taxonomy has been complicated by sexual dimorphism such that males and females have frequently been described as separate species. Revisionary studies often result in the linking of the sexes with consequential proposals of synonyms. Unless especially distinctive, species are no longer named from females alone.

2. We report below the discovery that two species described from females only are in fact one species. However, the later name is widely used in the literature and we suggest that to synonymise it with the older name will only give rise to confusion and irritation. We therefore ask the Commission to conserve the later name.

3. Ever since one of us (RHLD), having previously examined two paratype females of *Megaselia abdita* Schmitz (1959, p. 123) (see Disney, 1984), then described the unknown male (Disney, 1987, p. 263), this has proved to be an important species in forensic cases in Europe and America (e.g. Disney, 1994; Greenberg & Kunich, 2002; Greenberg & Wells, 1998; Disney & Manlove, 2005; Manlove & Disney, 2008) and its CO1 signature has recently been determined (Boehme et al., 2010). It is also proving to be a useful laboratory insect in other studies (e.g. Schmidt-Ott et al., 1994; Stauber et al., 1999, 2000, 2002, 2008; Rohr et al., 1999; Bullock et al., 2004; Lemke et al., 2008; Rafiqi et al., 2008, 2010).

4. The species is widely distributed and is included in a range of identification keys for the scuttle flies of different regions (e.g. Disney, 1989; Disney & Ashmole, 2004, 2007; Disney & Aguiar, 2008; Disney et al., 2010). Likewise it is listed as *M. abdita* in the most recent catalogue of Palaearctic Diptera (Disney, 1991) and catalogues and checklists for individual countries that have followed since (e.g. Chandler, 1998; Prescher & Weber, 1999; Weber et al., 2007). Furthermore, editors of journals tend to favour the use of the names in the most recent checklists and catalogues. It is also referred to as *M. abdita* in papers on its ecology (e.g. Lindberg, 1961, 1962; Werner, 2004; Pérez Fernández, 2006; Durska et al., 2010) and its hymenopteran parasitoid (Notton, 1991).

5. Santos Abreu (1921, p. 57) described *Aphiochaeta griseipennis* from the female only. When what had survived of his collections was subsequently re-evaluated (Santos Abreu & Schmitz, 1934, p. 68) it was concluded that the identity of a single surviving pinned female of this species (by then re-assigned to the genus *Megaselia* Rondani, 1856) was not readily determinable. Indeed under 'Species incerti subgeneris', they wrote '*griseipennis* Santos. Unum ex. superstes ita sordet, ut nihil de ea specie statui possit' [The one surviving example as such is dirty, so I have not been able to determine anything from seeing it].

6. Despite his examination of this specimen (by then deposited in the Museum Koenig, Bonn), Schmitz (1959, p. 23) described *M. abdita*, also from females only (the holotype and 3 paratypes being deposited in the Museum Koenig, Bonn). Following Schmitz & Abreu, Borgmeier (1968) listed *M. griseipennis* under '*Megaselia: species dubiae*'. The name *M. griseipennis* has not appeared in the literature since.

7. RHLD recently remounted the single surviving specimen of *M. griseipennis* referred to by Santos Abreu & Schmitz (see previous paragraph) on a slide and has labelled it the lectotype; it is formally designated as such herein. This slide mount allowed recognition of critical features, including the internal characters of the SPS vesicles of the postpedicels and Dufour's crop mechanism. To RHLD's surprise the specimen proved to be the same species as *M. abdita*. Normally such a discovery would result in the proposal of the synonymy of *M. abdita* with *M. griseipennis*. However, this would only give rise to confusion and irritation. Indeed the indications are that forensic entomologists and those who use this species as an increasingly popular laboratory organism for research in genetics, evolution and development

studies are likely to continue to use the name *M. abdita*. The automatic reversal of precedence under Article 23.9.2 of the Code is not possible because the conditions of Article 23.9.1.1 are not met insofar as the senior name has been used as valid between 1921 and 1968. It is proposed that the Commission conserve under the plenary power the name *Megaselia abdita* Schmitz, 1959, which is a junior subjective synonym of *Aphiochaeta griseipennis* Santos Abreu, 1921.

8. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to rule that the name *abdita* Schmitz, 1959, as published in the binomen *Megaselia abdita*, is to be given precedence over the name *griseipennis* Santos-Abreu, 1921, as published in the binomen *Aphiochaeta griseipennis*, whenever the two are considered to be synonyms;
- (2) to place on the Official List of Specific Names in Zoology the following names:
 - (a) *abdita* Schmitz, 1959, as published in the binomen *Megaselia abdita*, with the endorsement that it is to be given precedence over the name *griseipennis* Santos-Abreu, 1921, as published in the binomen *Aphiochaeta griseipennis*, whenever the two are considered to be synonyms;
 - (b) *griseipennis* Santos-Abreu, 1921, as published in the binomen *Aphiochaeta griseipennis*, with the endorsement that it is not to be given priority over the name *abdita* Schmitz, 1959, as published in the binomen *Megaselia abdita*, whenever the two are considered to be synonyms.

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